

Funding Retirement Income: some lessons from recent history.

Practical guidance for personal investments, based on solid research

by John Cameron

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based on independent research by Delta Research and Advisory



BlackSwan Event
FINANCIAL PLANNING

John Cameron is the Principal of Black Swan Event Financial Planning and one Australia's most experienced financial planners.

He has been directly involved as a financial planner since 1982 and has previous experience in stockbroking, money market operations and financial journalism.

His first degree was in Economics (B.Econ) and he remains a keen student of economics and business. He also holds a Bachelor of Commerce degree (B.Comm) and a Master of Business Administration (MBA), as well as being a Certified Financial Planner (CFP).

He completed a post graduate diploma in Economics from Murdoch University in 2012.

John believes in helping clients achieve their goals, working with them through good times and bad to do so. Some clients have been with him for more than 20 years.

John sees his role as helping clients 'Preserve, Protect and Grow' their wealth. An important first step is to identify and refine a good strategy that takes account of client circumstances and goals and then plots a path that manages risk, taxation, Centrelink and investments.

John helps people meet their financial goals by using a range of financial products, most of which are also available to other financial planners. However, his long industry experience and extensive industry knowledge enables him to apply additional insights to product selection, implementation and strategy.

"We continue to look over our clients' shoulders as life stages, markets, legislation, needs and circumstances change and provide appropriate advice and solutions – for as long as they want us involved," he says.

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At a Glance

The material in this report is, at places, somewhat involved. I have therefore prepared this brief summary so that the more time challenged can still understand the important points, without having to wade through the whole report.

Background

This paper provides historical evidence about investment performance so people who are taking steps to provide retirement income will be better informed. While past performance cannot be used to predict future performance, there are still valuable lessons to be learned from history, that we neglect at our peril.

Our approach in this research is to take an initial amount of capital, invest it in various mixtures of shares and cash, then see how the total account balance fares after taking an indexed income for a number of years.

The results show some mind-boggling differences, depending on the start date. For example, the balance after 25 years for somebody who started their retirement in 1983 is more than 20 times greater than for somebody starting in 1969.

Nine Lessons

We have drawn nine lessons from the results:

- 1. There is no “one size fits all”. Economic and financial conditions have a big bearing on the outcome.**
- 2. If conditions change, be prepared to make big changes to your portfolio.**
- 3. Small increases in return can have a big impact on the outcome.**
- 4. Diversify. It is the best tool to control risk.**
- 5. Don’t use borrowed money to fund retirement income.**
- 6. Reducing the amount you draw from your investments will boost your account balance.**
- 7. Consider annuities for a good, low risk option with inflation protection.**
- 8. Always keep cash in reserve.**
- 9. Pay attention to inflation.**

I hope you enjoy this paper and get something worthwhile out of it. I am not aware of another that covers this ground in this way.



John Cameron

If you would like to discuss any part of the research and our findings or you would like to use our services, please don't hesitate to contact us. We provide a full range of financial planning services, with many years experience in retirement incomes.



Funding Retirement Income

Some Lessons From Recent History

When retirement arrives and is no longer a silhouette or mirage on the far horizon, people come face-to-face with some harsh realities.

Typically they have a certain amount of money (mainly superannuation) to invest to produce a future income. How well this money is invested and how markets perform will determine their quality of life.

In Australia, the favourite vehicle for sourcing retirement income is the account-based pension. It has many advantages, including handsome tax benefits, access to capital and flexibility. However, it does not guarantee income or capital and if the capital is all used up, either due to poor investment markets or overspending, then the income stops.

Not surprisingly, one of the questions that retirees often ask their advisors is along the lines: "What income will this money provide me?" or "How long will this money last?" Unfortunately, it has been very difficult, up until now, to answer this question with any degree of certainty and advisors are often left with the only option being to assume a constant rate of return, an initial level of expenditure and a rate of inflation. Then it is possible to draw a smooth curve of the account balance, year by year.

The only problem is that, in reality, the curve is anything but smooth.

Some Technical Stuff

One thing that has a big impact is **when** you receive your returns, as much as **how big** they are. The return that you receive over a period will contain some strong positives, some modest positives and probably some negative returns. The order (or sequence) in which these are received has an even bigger bearing on the final outcome than the overall average return.

For example, if you have very bad returns in the early years and consequently run down your capital, your end result will be much worse than if you have some very good returns in the early years, followed by a run of negatives. The early good returns have built up a buffer to absorb the later bad returns, unlike in the case of having the poor results early on. This applies even though the average return throughout the period may be the same in both instances.

This has been labelled sequencing risk and it is starting to attract attention amongst academics, researchers and advisors.

The impact of sequencing risk can be seen in the cases we examine later.

Introduction

To get some hard evidence of past outcomes, we appointed Delta Research & Advisory Pty Ltd to build a model that enables us to look at different portfolio mixes for generating retirement income during different periods and different economic circumstances.

The results surprised me and, in important ways, they contradict much conventional wisdom. For example, somebody who retired in 1969 would have done best by having all their funds in cash, while shares were the best performer for somebody retiring in 1988. For somebody retiring in 2007, it didn't matter (at least so far – the time period is shorter and future events may have an impact).

Whether you are funding your retirement income through direct investment or via vehicles such as account-based pensions, the results of this study are important. After all, an account-based pension is just a vehicle for holding investments and how well it performs will depend on where the money is invested.

The focus of this paper is entirely on investments. While things such as the age pension, health cards and concessions are very important in retirement, they are well discussed elsewhere.

Also, I must stress that the most appropriate portfolio will vary from person to person, depending on circumstances and risk appetite. So don't go acting on any of this until you have considered whether it is suitable for your circumstances or you have spoken with a licensed advisor experienced in retirement. Also, bear in mind that past performance is no guarantee of future performance and these outcomes should only be used as a guide.

Now, let's get to work.

What we did

Delta Research & Advisory Pty Ltd built a model that allows us to go back to 1969 and compare performances since then for different portfolios, with different starting dates, while drawing an indexed income.

We can then compare the amount of income drawn and the account balance over the period in question. What we found was that account balance and total income varied greatly, depending on the time period in question and the make-up of the portfolio.

The main contributor was the different financial conditions that existed in the different periods, particularly the different levels of inflation and interest rates, and different stock market performances (including dividends).

Before proceeding, let's look at our methodology.

Methodology

- Monthly Returns (31/12/1969 to 28/2/2014)
 - Australian Shares Growth = MSCI Australian Shares Index PR
 - Australian Shares Income = MSCI Australian GR – MSCI Australian PR
 - Cash Returns = 90 day Bank Bill rate
 - Franking Credits – user input (assume 30% tax + 70% franking every year including before 1987)
- Dividends, Franking Credits, Interest paid to cash account
- No transaction costs. All income is tax free and franking credits received
- Drawdown taken from cash until cash balance is zero, then from sale of shares
- Minimum draw is adjusted for inflation
- The required income is \$50,000 pa (or 5% pa) adjusted for inflation
- No rebalancing
- Tables and charts that are in “real” dollars (i.e. after inflation), are adjusted for inflation from the start year.

Note: When we talk of dividends in this paper we are referring to the level of dividends across the whole market, as measured by Australian Shares Income, above, and not the dividends of any one particular company.

In the appendix we graph a number of results over different time periods, using an initial investment of \$1,000,000.

In the graphs and tables in the body of the paper, we have used percentages, to overcome problems when comparing dollar amounts of different values, during different time periods.

Don't be fazed by the size of the initial balance (\$1 million). We chose this figure because it is easy to work with – if you have \$100,000, just divide by ten. If you have \$500,000, divide by two.

Also, we have restricted our analysis to two asset classes – cash and Australian shares. We believe this approach provides most of the lessons. If we added more asset classes, such as international shares and property, it would have added complexity but not much more, given the way that most growth assets have moved in sync in recent years.

Neither have we rebalanced. Coming up with some robust rules for rebalancing is an obvious area for future study. However, logic says that it must be done carefully, as rebalancing can worsen the outcome in a number of scenarios.

In retirement, people often have multiple goals. We have chosen to focus on income, as we believe it is the most important and correlates with quality of life. If you get that right, then attaining your other goals gets a lot easier.

Results

Time to look at some results. After 25 years, with the starting asset allocations as described, the account balance, after allowing for inflation and after paying an indexed income of 5% of the initial account balance, would be as shown in Table 1 and Graph 1.

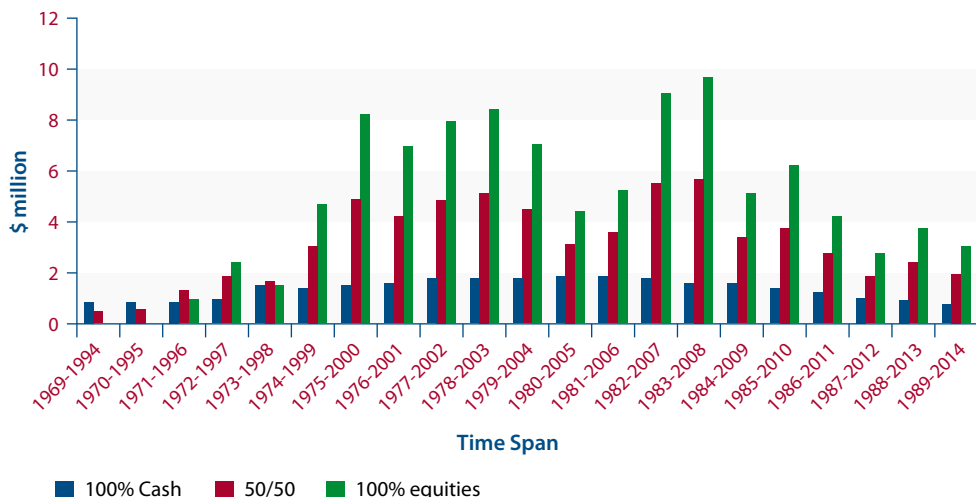
Table 1: End value of portfolio after 25 years – three scenarios
(100% cash, 100% shares, half each)

Time Span		% Original Value Remaining After 25 Years		
Start	End	100% Cash	50/50	100% Shares
1969	1994	84%	53%	Nil
1970	1995	85%	58%	Nil
1971	1996	90%	130%	96%
1972	1997	100%	186%	240%
1973	1998	150%	170%	150%
1974	1999	140%	310%	470%
1975	2000	150%	490%	830%
1976	2001	160%	430%	700%
1977	2002	180%	490%	800%
1978	2003	180%	520%	850%
1979	2004	181%	450%	710%
1980	2005	190%	318%	440%
1981	2006	190%	361%	525%
1982	2007	180%	550%	910%
1983	2008	160%	570%	970%
1984	2009	160%	340%	520%
1985	2010	140%	382%	623%
1986	2011	120%	280%	430%
1987	2012	110%	190%	280%
1988	2013	100%	240%	380%
1989	2014	80%	200%	310%

Source : Delta Research & Advisory Pty Ltd

Graph 1: End value of portfolio after 25 years mapped against the investment period

End Values - After 25 Years



Source : Delta Research & Advisory Pty Ltd

One thing that stands out is the huge differences that occur in different periods. It's almost as if *when you retire is as important as how much you retire with.*

When we drill down, we find that it is more accurate to say that economic conditions (interest rates, inflation, growth) vary over the different periods and affect how we should structure portfolios. It's as if the mantra should be: *different portfolios for different times or a portfolio to suit the times.*

Let's drill down a bit further into the results.

Portfolios starting in the late 1960s or early 1970s experienced the worst kind of sequencing risk – terrible returns in the early years. The chart has been built on the basis of using the available funds to provide an indexed income of \$50,000 pa (or 5% pa) with no rebalancing.

Anybody who invested totally in shares saw their money gone by 1984 (if they started in 1969) or 1985 (if they started in 1970).

This raises the obvious question: Why would anybody leave all their money in shares, when the market was so bad and there were very attractive alternatives in cash and fixed interest?

The equally obvious answer is: They shouldn't – they should rebalance. And this is one of the important lessons from this study – you should be prepared to make big changes to your portfolio when faced with big changes in the economic environment.

On the other hand, if you started in 1969 or 1970 and put at least half the funds in cash, then you would at least have been able to maintain your real income over the 25-year period – but nothing more.

People who started in the mid-1970s onward have seen their real income maintained and the real value of their capital rise substantially. In some cases their capital has risen to between eight and ten times its original value. And in real terms, too. This extra capital could be used in any number of ways – to provide a higher income, capital expenditure or an inheritance.

People who invested in the mid-80s have seen their account values impacted by the Global Financial Crisis but they still show a healthy rise.

This is an example of the other side of sequencing risk – big falls after a series of good returns that have built up a buffer to absorb the impact of the falls, compared with serious falls at the start causing massive erosion of initial capital.

Why The Big Difference?

So, why the big difference? In a word (or three): different market conditions.

The period from 1969 was notable for high inflation, high and volatile interest rates, and major worldwide changes to the economic regulatory environment.

High inflation

America tried to finance the Vietnam War without raising taxes and Middle Eastern oil producers lifted the oil price. From the early 1970s until about 1981, high inflation applied to Australia and most of the western world, including the UK and USA. In the early 1980s, inflation came under control in the USA but persisted in Australia until the early 1990s.

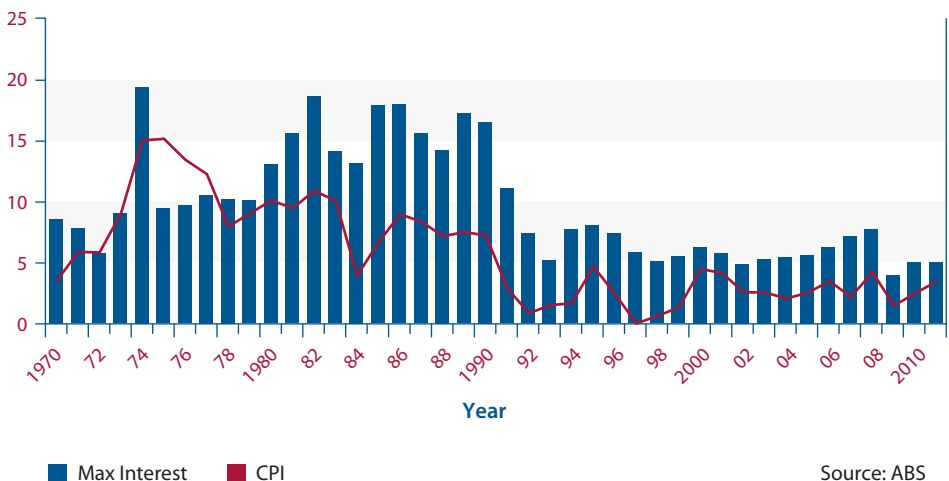
High and volatile interest rates

Graph 2 shows the level of interest rates and inflation (measured by the Consumer Price Index) from 1970 until 2011.

The interest rate used is the highest monthly bank bill rate, annualised.

Graph 2: Interest rates and Consumer Price Index (CPI) 1970 to 2011

Changing Times



Major changes to the world-wide economic regulatory environment

From the Second World War until the 1970s, the world functioned under a regime hammered out at the Bretton Woods Conference after World War 2. Under this regime, the financial sector was highly regulated. Exchange rates were fixed (and gold played a big part in this), interest rates were heavily regulated at all levels and banks were restricted in what they could lend. This began to break down in the late 1960s and early 1970s. America suspended the convertibility of US dollars into gold in 1974. Currencies were progressively floated and bank deregulation began in earnest in the early 1980s. A big expansion in bank lending followed.

The main effect (especially of floating exchange rates) was to 'internationalise' the economy and problems in one area quickly flowed to other areas.

The impact of these changes was swift. Inflation rose, interest rates rose, share markets fell and recessions happened.

By contrast, conditions improved in the period from 1988

It was after the 1987 crash and inflation began to fall. Interest rates stayed high until 1992 but there was much greater overall stability than in the previous period. Let's look at some further examples.

Table 2 shows a comparison of the results from two different start dates – 1969 and 1988 – using different mixes of cash and shares. The table shows the end account values for each at the end of the 25-year period, after taking inflation into account and after paying the same level of indexed income throughout.

Table 2: Account values for investments starting in 1969 and 1988

At Start		End Value	
Cash	Shares	% of original remaining at end	
		1969 Start	1988 Start
0%	100%	Nil	380%
20%	80%	Nil	320%
40%	60%	40%	270%
60%	40%	60%	210%
80%	20%	72%	150%
100%	0%	84%	100%

Source : Delta Research & Advisory Pty Ltd

Table 2 shows the stark contrast between the two periods. For the first period (starting in 1969), cash has been by far the better strategy, whereas it is shares for the second period (starting in 1988). The main lesson is that there is no universal answer to the question of portfolio construction that applies in all circumstances. It depends on the circumstances.

In the Appendix, you will find a number of graphs that show the year-by-year situation for a number of different periods and different starting asset allocations.



Global Financial Crisis

Now let's look at the situation of somebody who started their retirement in January 2007. The time period is a bit short and we must be cautious about any conclusions we reach. However, it has the benefit of being very topical.

Using the same approach as before we constructed a table of end values (Table 3).

Table 3: Account balance at 1/1/2014 for investments beginning 1/1/2007

Cash	Shares	% of original remaining at 1/1/ 2014
0%	100%	75%
20%	80%	76%
40%	60%	78%
60%	40%	79%
80%	20%	80%
100%	0%	81%

Source : Delta Research & Advisory Pty Ltd

I found these results remarkable. Over the full period, it made almost no difference where your money was. "Why is it so?" I hear you ask.

Well, the answer lies in the very low interest rates that applied for much of that time and the low inflation rate. After the GFC, the Reserve Bank (in common with most central banks) dropped interest rates dramatically. For most of 2009 bank bill rates were about 3%, compared with 6% to 7% in 2007. In an environment of 3% interest rates, if all your money is in cash there will not be enough interest to cover your drawings and most of the drawings will come from capital. You will run down your cash balance very quickly. By contrast, shares continued to pay good dividends, especially after taking tax credits into account. Although dividends fell, they did not fall by anywhere near as much as interest rates. Although shares fell in value, the higher dividends (compared with interest rates) helped offset some of this fall.

There is folly in keeping too much in investments like term deposits in the current climate. Although the table shows that there is negligible difference between the different alternatives, what it doesn't show is that, in fact, the balance of the 100% cash fund is falling consistently, while those that contain a reasonable share exposure rose from 2008/2009 onwards as shares recovered value.

This example shows that you have to be careful making judgments based on past performance over a relatively short period. Decisions have to be made looking forward and taking current conditions into account. The exact mix will be an individual choice after taking risks into consideration.

This is yet another example of how different macroeconomic settings can have a big influence on the best way to structure a portfolio.



Lessons

So, what lessons can we draw from this? Here are nine.

Lesson 1

There is no 'one size fits all'. Economic conditions such as interest rates, inflation rates and overall growth rates have a big bearing on which asset classes will perform the best. These background conditions do not change quickly but can persist for significant periods of time. For instance, the period of high interest rates and high inflation lasted in Australia for about 20 years (from the early 1970s to the early 1990s). Portfolios should be constructed with overall economic conditions in mind.

Lesson 2

Following on from Lesson 1, if conditions change, you should be prepared to rebalance your portfolio. However, you need to be sure that the change is real and not just one of the market's normal fluctuations. If you bale out of shares and go to cash because you think the sharemarket is going into a prolonged downturn, and then you find that it keeps going up and up and up... then you will lose a lot. Faced with this, people often then go back into the markets at much higher levels and closer to the top.

The sort of changes I have in mind are deep seated and ongoing ones. In the 1970s, the sharemarket did not fall overnight but over a period of many months. In the GFC, the market did not fall overnight but over a period of many months. In these situations there was plenty of opportunity to rebalance to advantage. You may not get out at the top but doing so is a forlorn dream.

Lesson 3

Small increases in performance can have significant long-term benefits. In the model, we use the 90-day bank bill rate as the interest rate (mainly because there is a long period of readily available data). However, in recent years term deposit rates have usually run at 1% to 1.5% above bank bill rates. By investing in term deposits rather than bank bills, the extra return will make a significant difference over long periods in portfolios that contain a reasonable amount of cash. Also, we have assumed only 70% franking of dividends. If you can get that up to 100% (without sacrificing yield), this too will add significantly. (Note: over the longer term, the relation of term deposits and bank bill rates has been more volatile and the above margin of 1% to 1.5% in favour of term deposits has not always held. In some periods the reverse has been true.)

Lesson 4

Diversify. Sensible diversification is the best way to control risk – but make sure it is sensible. By sensible I mean sticking to quality assets in different asset classes. If you diversify too far you will end up spreading into lower quality assets and to some extent defeating your purpose. The examples above, of people who invested just before the GFC, show that it was possible for them to maintain their income without sacrificing all of their capital. Sure, there has been some reduction in real terms but it is far from catastrophic. From time to time I meet people who suffered big losses in the GFC and almost invariably they were poorly diversified and had too much invested in one or two sectors or had borrowed too much money.

Lesson 5

Don't go into retirement using borrowed money to fund investments. The result will be that the inevitable periods of volatility will wipe out significant amounts of your capital.

Lesson 6

If preserving your account balance is your objective, then reducing the amount that you draw can have a big impact. We have run a number of models with lower rates of drawings than those used here and they show a sizeable increase in the account value or the longevity of the portfolio.

Lesson 7

Give a thought to annuities. Whenever I mention annuities, I almost invariably get a negative reception – and for understandable reasons. The annuities of old were invented centuries ago and had many features out of sync with modern lifestyles. They paid a fixed income for life (a plus) but the interest rate was low and typically was not increased with inflation. When you died, there was no refund of any remaining capital. This last point was particularly unattractive as it could imply a substantial loss if you died shortly after starting the annuity. In other words, an annuity was really a bet on how long you would live.

New annuities address these problems. They are issued by life insurance companies that are overseen by APRA and provide a secure indexed income, an attractive starting interest rate, access to capital for a good number of years and protection against inflation.

While annuities are unlikely to provide the complete answer, their inclusion in a retirement portfolio is worth consideration due to their very low risk.

Lesson 8

Always keep a reserve in cash or secure, short-term, interest-bearing investments.

This provides a number of backstops:

- You can draw from this during periods when other investments are in the doldrums and prevent having to sell growth assets at reduced prices.
- It gives you some 'dry powder' to go back into the sharemarket at lower levels, if it has a fall.

Lesson 9

Inflation matters – a lot. Even relatively low rates of inflation of around 3% p.a. can have a big impact when compounded over many years. Shares may not be a good inflation hedge in some circumstances. An indexed annuity provides an inflation hedge that cannot be guaranteed by other means.

Conclusion

This paper shows that the best portfolio varies with the prevailing economic conditions, particularly monetary conditions.

At the time of writing (mid-2014), conditions heavily favour shares over fixed interest investments. In general, shares are paying a dividend of about 6% after allowing for franking credits (plus have the possibility of growth), compared with term deposits of 3.5% to 4%, all in an inflationary environment of 2.9%. People too heavily weighted towards fixed income will end up drawing down their cash reserves faster than they may wish. This is not to say people shouldn't have money in cash (or near cash) – just not too much.

How long will this last?

One thing we can be sure of is that at some point it will change. However, just now it looks like the world of low interest rates, low inflation and steady (but patchy) growth will continue for a while yet. Stay alert, but not alarmed.

Finally

Whether you have already retired or are planning for the day when you do retire, we would be happy to hear from you. We will assist in any way we can.

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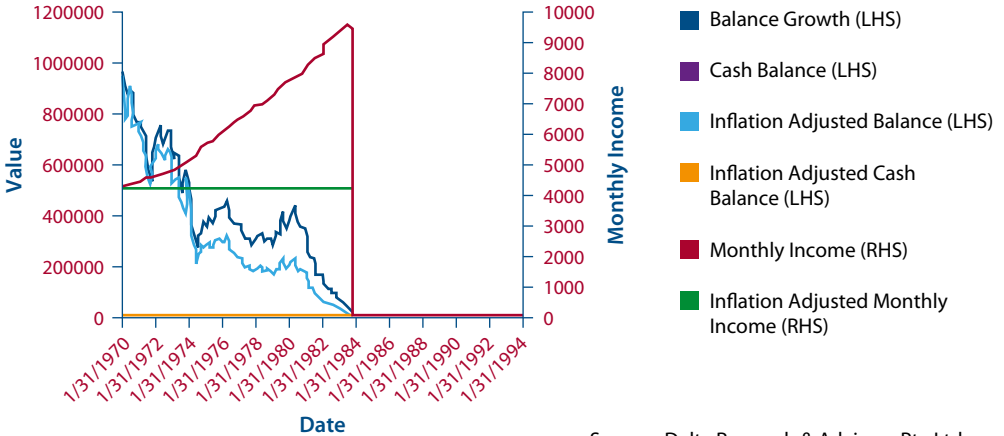
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Appendix

These graphs show the year-by-year situation for different periods and different starting asset allocations.

Graph 3: 100% invested in shares, 1970 to 1994

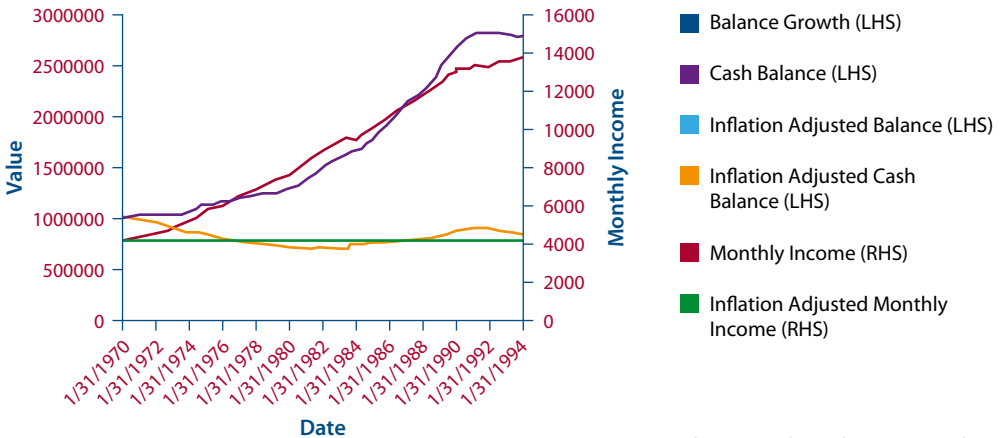
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

Graph 4: 100% invest in cash, 1970 to 1994

Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income

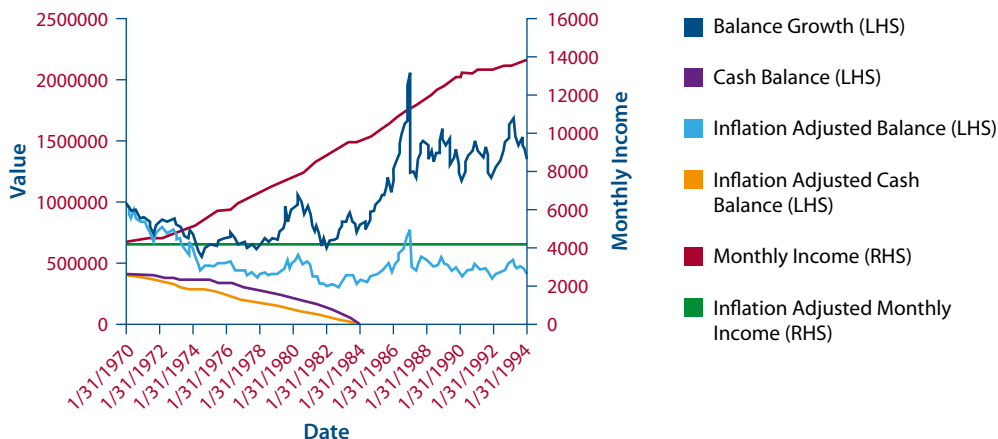


Source : Delta Research & Advisory Pty Ltd



Graph 5: 40% invested in cash, 60% in shares, 1970 to 1994

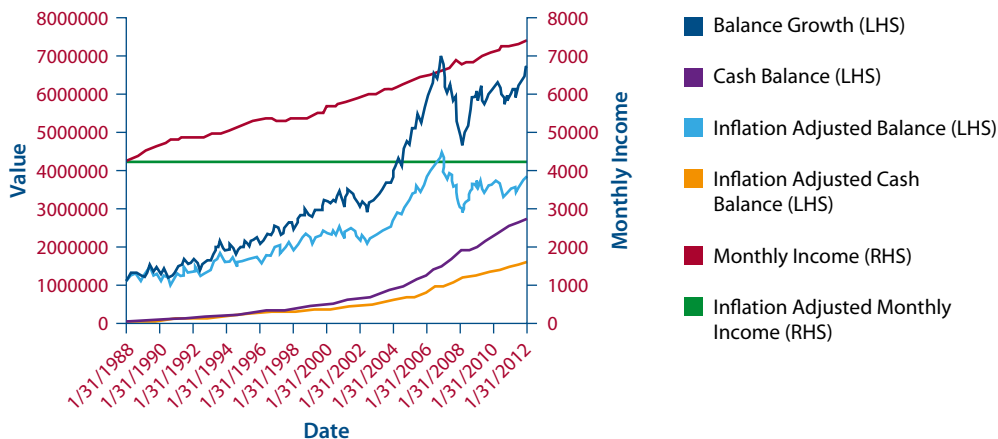
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

Graph 6: 100% invested in shares, 1988 to 2012

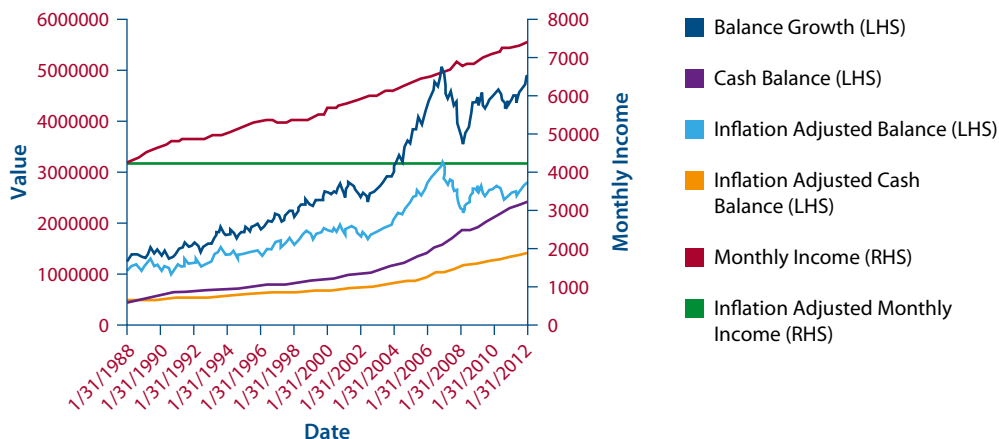
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

GRAPH 7: 40% invested in cash, 60% in shares, 1988 to 2012

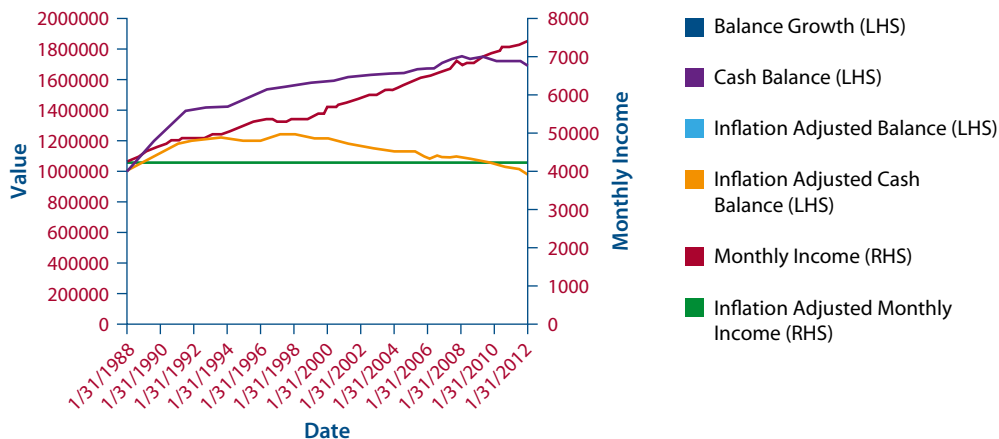
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

GRAPH 8: 100% invested in cash, 1988 to 2012

Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income

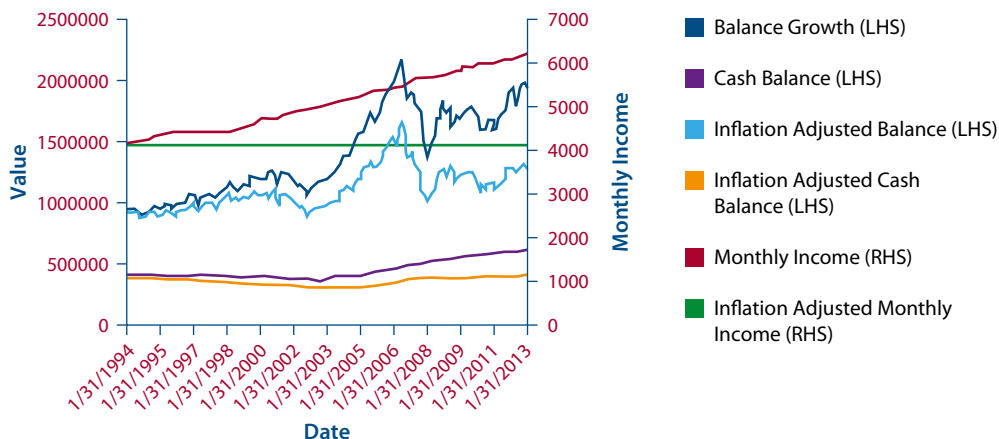


Source : Delta Research & Advisory Pty Ltd



GRAPH 9: 40% invested in cash, 60% in shares, 1994 to 2013

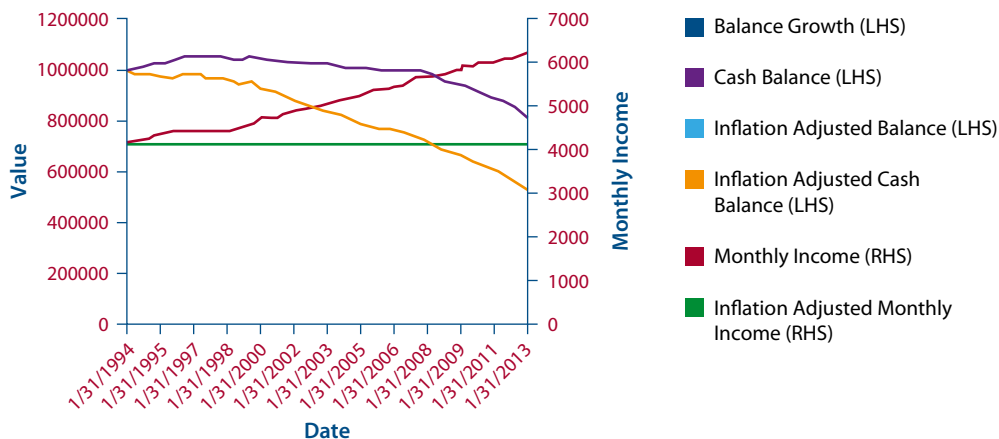
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

GRAPH 10: 100% invested in cash, 1994 to 2013

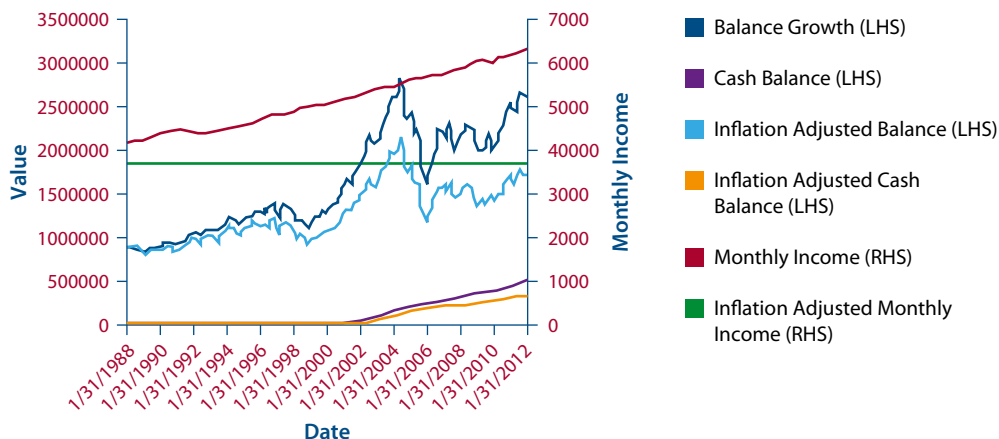
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

Graph 11: 100% invested in shares, 1994 to 2013

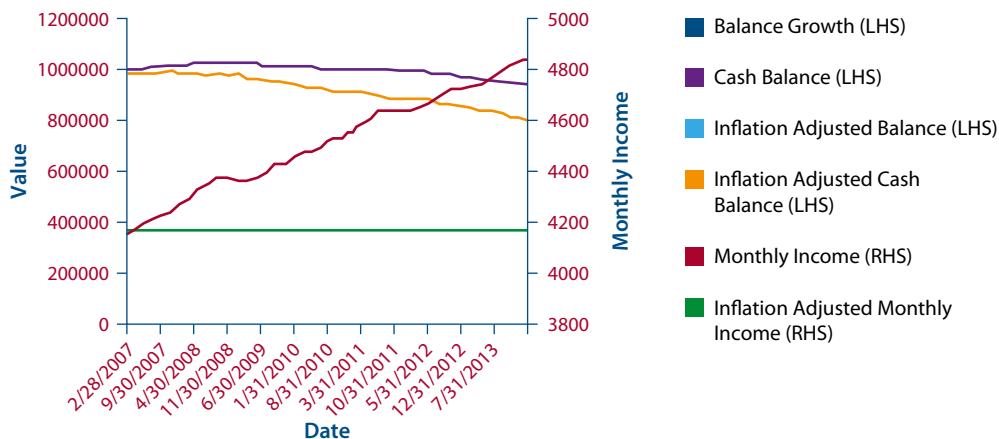
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

Graph 12: 100% invested in cash, 2007 to 2013

Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income

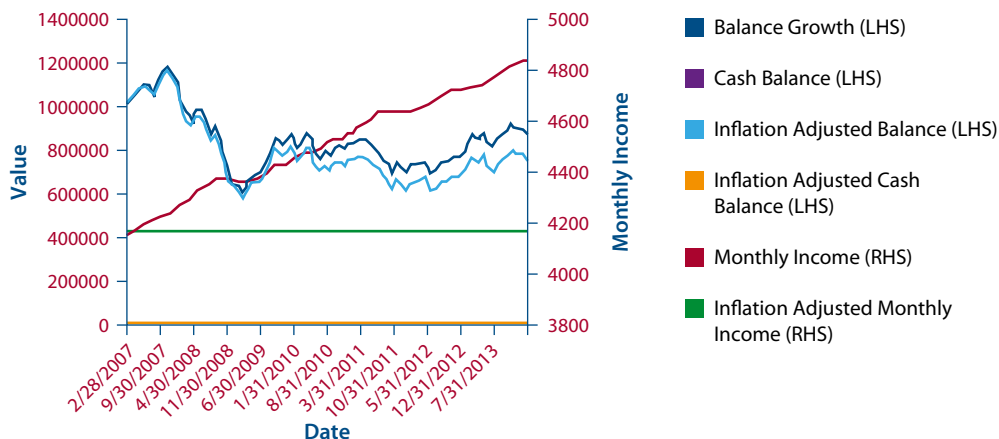


Source : Delta Research & Advisory Pty Ltd



Graph 13: 100% invested in shares, 2007 to 2013

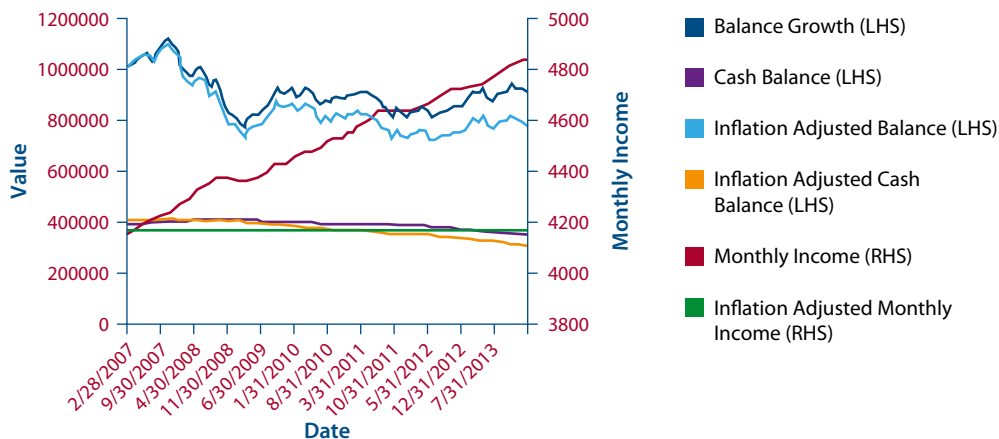
Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd

Graph 14: 40% invested in cash, 60% in shares, 2007 to 2013

Growth of Total Balance, Cash, Monthly Income, and Inflation Adjusted Monthly Income



Source : Delta Research & Advisory Pty Ltd



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